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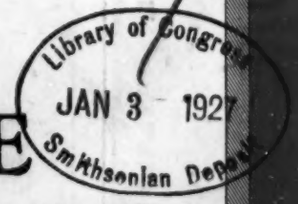

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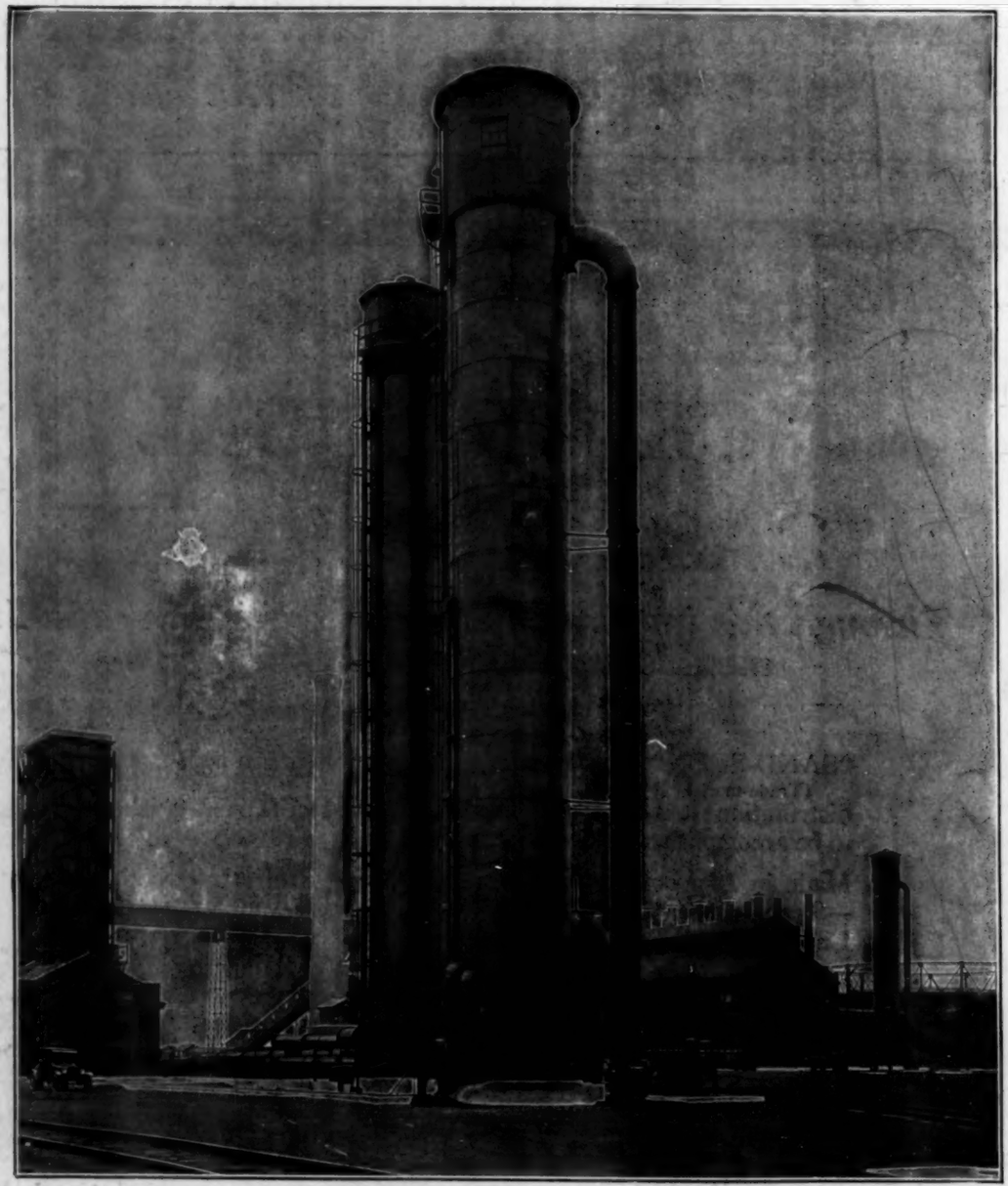

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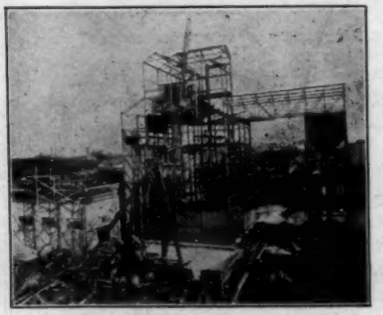

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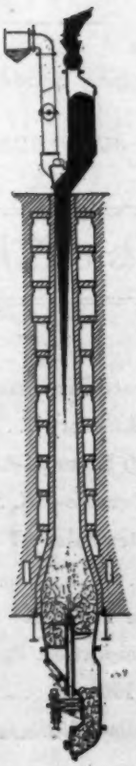

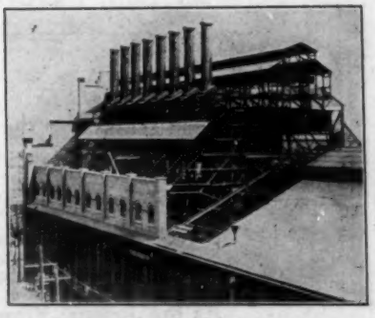

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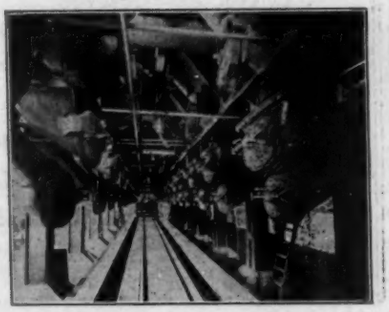

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AMERICAN
GAS JOURNAL

Established 1859— Pioneer of the Gas Industry

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Blue Water Gas the Ultimate Process

An analysis showing why few new gas operations are started and the remedy

L. P. Lowe

THOSE of the readers of the American Gas Journal who followed the very interesting series of articles by Mr. Ismar Ginsberg entitled, "Fuel of the Future. What Shall it Be?," must have been impressed with the importance which Mr. Ginsberg attaches to blue water gas, hereinafter referred to as blue gas, as a particularly desirable gas for all domestic, commercial and industrial purposes, the following one of his paragraphs giving the gist of his views:

"In summing up, the three most important characteristics of a gaseous fuel are the concentration of the heat values in unit volume of the products of combustion, the flame temperature of the gas and the rate of heat propagation. As has been shown, all these factors are closely interrelated. They are the real criteria on which to base the quality of a gas, and not on the B.t.u. that it may contain. The whole centers around a very simple point, namely, that it is not what the fuel contains in the way of heat values that determines the value of the gas, but the manner in which these heat values are released, are converted from chemical energy into heat energy, and rendered available for useful purpose, that determines the worth of the fuel. And when gaseous fuels are compared with each other on this basis, it is found that a 300 B.t.u. water gas is the most efficient of all."

Properties of Blue Gas

The composition and characteristics of blue gas, as published in the work, "Combustion," of the American Gas Association, are as follows:

Hydrogen	51.8%
Carbon Monoxide	43.4%
Carbon Dioxide	3.5%
Nitrogen	1.3%
	100.0%
Gross B.t.u. per cu. ft.	310.0%
Specific Gravity	.52%
Flame Temperature	4167°F.

The flame temperature of blue gas is the highest of all commercial gases and while the matter of flame temperature is not of so great importance when the gas is to be used for domestic purposes only, it is of outstanding importance when used for many industrial purposes.

In the address of Mr. J. B. Klumpp, president of the American Gas Association, at the convention of the association on Tuesday, October 14, 1924, in speaking of the relative advantages of manufactured gases of high heating and low heating value, said:

"During the past year the advisory council and the executive board of this association put themselves on record as recommending the abolition of state uniform heating value standards, suggesting that more efficient operation and greater economies can be obtained by allowing the manufacture and distribution of such heating values as the existing and proposed apparatus and local conditions permit.

"I believe that such an action would result in a progressive development of the industry. I believe that local materials would be more generally utilized and advanced methods of gas generation could be introduced.

"It has been demonstrated that gas having heating values of 300 to 400 B.t.u. per cubic foot can be efficiently burned and give satisfactory service in all appliances, both domestic and industrial.

"Any gas of uniform constituents, when free from condensible hydrocarbons and low in rich hydrocarbons, is satisfactory for distribution and domestic service, and each company should be permitted to supply that quality best suited for its local conditions."

Henry L. Doherty on Natural Gas

In a paper which Mr. Henry Doherty recently read before a natural gas convention he wrote:

"We must all look forward to the time when we must supplement our supply of natural gas with artificial gas. Therefore, this whole paper is presented primarily from an artificial gas viewpoint. Unless new and unlooked for discoveries are made we cannot hope to maintain our economic position and compete with other fuels on a large scale if we attempt to supply a "fancy" gas such as is now supplied by the artificial gas companies.

"In the artificial gas business we put up an enormously expensive plant, lay huge cast iron mains even for distributors, have an individual service in every house and a meter, and yet the amount of energy we sell per year per customer on an average is so small that it is almost a joke. It is seldom more than the equivalent in energy value of three-fourths of a ton of coal per year. We must cut down not only the initial cost of our manufacturing equipment, but we must cut down the cost of the gas we make. To do this we must get permission of the regulatory powers to furnish any gas of any character that will satisfactorily do the work for the customer and thereby make possible the use by each company of the most economical material available. This will be in some cases a high B.t.u. gas where oil is the most available material for gas making.

A Cheaper Gas Making Method Will Be Found

"It is my opinion that where there is a market for metallurgical coke, or other uses for coke which will command prices in the market equal to the metallurgical coke, that we will never find a cheaper way of making gas than in by-product coke ovens. The gas in this case is the by-product and the coke must be used even though the gas must be thrown away, therefore, no gas making process directed primarily to the manufacture of gas can compete with by-product coke ovens under the conditions stated above.

"This supply, however, would with an adequate development of the gas business be wholly insufficient to furnish all the gas we should be able to market, and it looks as though the future manufacture of gas must for several reasons take the form of complete gasification, which means the manufacture of a gas which under high speed, high capacity operation, will probably not have much more than 300 B.t.u. per cubic foot."

While many other prominent gas men have expressed views similar to those of the gentleman named the foregoing will serve to show the opinions of leaders of the industry as to a desirable and entirely satisfactory gaseous fuel, a consideration of which is of importance in connection with the installation of gas plants in towns which have yet to be supplied with gas of any kind, by which I, of course, mean the installation of new plants throughout, including both manufacturing and distributing systems, since towns which can be reached through high pressure lines from existing sources of supply are in reality but extensions of the latter system and not new plants within the meaning of this article.

By-Product Installations Advantageous

There is no question at all but that in localities wherein by-product coal gas plants can be operated with financial success, and in which the gas is the real by-product, no other method of producing gas can be consistently considered, but it takes large and favorably located communities to warrant the installation of by-product plants hence the smaller ones must look to something else.

The success of well managed gas plants in many small communities is ample evidence of the fact that almost any progressive and growing town, having reached a population of 2,500, is of sufficient size to profitably support a gas plant; hence it is surprising to know that there are several hundreds of towns throughout our country, principally in the northwest, the middle west and the south, the populations of which range all the way from 2,500 to 15,000 or more, which have never been supplied with gas but in all of which there is an active demand for gas, it being merely a question as to how gas plants can be acquired. It is equally surprising to know that for a number of years very few gas plants have been installed and the few that have are principally municipally owned.

A somewhat active canvass of the situation shows that while the preference seems to be for municipal as against privately owned water plants, with opinions about equally divided as to the advisability of municipal versus privately owned electric plants, the preference for gas plants is almost entirely in favor of private ownership and it is safe to say that if private capital could have been found the few new plants which have been installed of late would not be municipally owned.

Theoretically there is no reason why a municipality should not operate its utilities as successfully as are privately owned ones, but the fact is that they are not, largely, doubtless, for the reason that political managers of gas plants do not have to depend upon the success of their operations to hold their jobs.

Electric Men and Gas Developments

I was at one time of the opinion that the electric concerns were the logical ones to intall future new gas plants in connection with their electrical operations but I have been forced to change my views, a study of the situation showing that electric men as a rule are so wedded to the development of electricity that they can see nothing else and there are many combination companies, particularly in small towns, in which, while electricity is successful, gas is not, the true reason being that electricity is favored at the expense of gas. I am not stretching the truth an iota when I say that your dyed-in-the-wool electric man will devote much more time and energy towards securing one domestic user for electricity than he would have to devote to secure ten for gas.

In large cities in which gas and electricity are operated in conjunction, and in which there are separate and distinct gas and electric departments, each does well, but this condition cannot, of course,

apply to small communities in which one set of men must, perforce, handle both commodities. I am, therefore, convinced that for the good of gas plants, and sometimes for their very life, they would better be operated independent of electricity.

I am quite well aware of the fact that there are small combination companies in which electricity and gas are both successful but in the generality of these cases it will be found that it is not the electrical men who are operating the gas plant instead of which it is gas men who are operating the electric plant, or if they be electric men they are of the few who have at heart the interests of both gas and electricity.

New Gas Plants Are Few in Number

That the gas business is a highly successful one, and that it is growing literally by leaps and bounds, is undeniable, this, however, applying only to existing companies, by which I mean that while the sales of gas are rapidly increasing very few new gas plants are being installed.

I have discussed this subject with many leading gas men with a view to ascertaining, if possible, the reason for the lack of interest in new gas plants and, without exception, I find their opinions to be the same, i.e., that the use of gas is really in its infancy, that no town can develop as rapidly and as satisfactorily as it should without gas for domestic, commercial and industrial purposes and that there are many industries which cannot at all be operated without gas, but when I ask them why so few new gas plants are being installed they have no reply. To my way of thinking, however, the answer is simple, the real reason being that in these days of rate regulation and the regulation of the issuance of public utility securities, and which means the elimination of the attractive feature of speculation, private capital cannot be induced to invest in new plants on the theory that if it can do no more than earn a fair rate of return on its investment it does not have to engage in active business to do so.

There was a time when gas franchises were in high favor and in great demand but that time has passed with the result that instead of being begged for, city officials are now begging to have someone take them and on terms the liberality of which would have been unthought of in the past.

The Choice of a Gas Making Process

In the localities in which fuel oil is obtainable it is altogether likely that oil gas will continue to be the logical kind of gas for those places for a long time to come, but in other localities the choice lies between carburetted water gas and blue gas pure and simple. But since carburetted water gas necessitates the use of gas oil, and since this material can now be very successfully used in the production of gasoline, it is more than likely that even though carburetted water gas may, and probably will, continue for quite some time to come it is fated for ultimate extinction. Whether or not this be the case, the fact remains that the most satisfactory kind of fuel gas for all domestic, commercial and industrial purposes is blue gas of approximately 300 B.t.u., and since this gas is unvariable in its quality, and since it can be produced from any solid carbonaceous fuel, including the low grades of bituminous coal, lignite, peat, refuse wood and other cellulose substances, the really sensible thing to do in the installation of new gas plants in small towns is to go to blue gas except in those relatively few localities where fuel oil is the logical gas making material.

I am not unmindful of the fact that, in all probability, the production of carburetted water gas does not necessitate the use of such high grade materials as the generator fuels in general use nor of that distillate known as gas oil, but be that as it may the use of any kind of oil for the carburetting of blue gas will be wholly unnecessary in future new gas plants.

What Must Be Met

As a result of a very careful study of the situation, and the result of my belief in the future of gas, I have reached the conclusion that before private capital can be induced to again engage in the installation of new gas plants the following situations must be met and solved:

1. Irrespective of what may be its heating value in terms of B.t.u., that kind of gas must be permitted to be served which will give the consumer the most heat for his money and also permit of the financially successful outcome of the enterprise.
2. Liberal gas franchises, through the terms of which both the interests of the public and the utility are equally safeguarded, must be granted by city officials, the franchises to be preferably of the indeterminate kind.
3. In addition to being permitted to earn a fair rate of return capital must, while feeling sure that its money is safe, be afforded a speculative opportunity within reasonable limits because of the fact that the launching of a new gas company is a hazardous business and not merely an investment as is the case when new funds are put into old and established concerns.
4. The amortization of original debt created for the establishment of the plant must be permitted from earnings in the same manner as municipalities always expect to, and sometimes do, amortize debt created for the installation of their public utilities.

Direct Appeal to Public

Presented with conditions such as 3 and 4 of the foregoing it will be found that regulatory bodies will be very apt to roll their eyes and hold up their hands in protest, but when they are shown that only a few cents per each 1,000 cu. ft. of gas sold will be required for the amortization of original debt, and when they are shown how inconsequential this additional cost is to the consumer as compared with the advantages of gaseous fuel, and when they are further shown that the permitting of amortization of original debt through rates is the only way in which the money can be found to install a plant they will, but not until then, begin to put their reasoning powers to work. Nor is it my belief that much can be accomplished through a mere appeal to the regulatory bodies since, after all, they but "Have their ear to the ground"; hence the better plan of procedure in through an appeal to the people direct.

From the Inside Out*

Los Angeles G. & E. Corp. build employee good will through novel activities

D. L. Scott

Manager Public Relations, Los Angeles Gas and Electric Corporation

A PUBLIC utility needs the good-will of its employees in order that it may have the good-will of the public. That statement, or its equivalent, has been made thousands of times, and agreed to as many times. It is "stipulated" as the lawyers say.

That much being conceded, the next stop is to consider how employee good-will may be cultivated. Of course, the first and obvious thing is to assure just and considerate treatment by the management and department heads. But it is not the intention of this paper to cover that phase of the subject, but rather group or mass activities that reach the greatest number in the shortest time.

It seems to the writer that the tone of the employee spirit can be improved by any wholesome employee activity, especially something constructive or co-operative. But preferably not anything in the nature of a "hoo-rah boys" appeal, in which "loyalty" and "efficiency" are preached at the group with the apparent motive of persuading them to render greater service to the company without any advantage to themselves.

Employee Activities

The formula may be stated thus: "Any joint, non-antagonistic employee activity which is made interesting to the group is a good-will builder for the company that promotes the activity." The fact that the activity has no direct good-will objective makes very little difference. The essential condition is that the company management shall be pleasantly associated with its employees in an endeavor which of itself is delightful or which by reason of its newness has the character of a recreation.

In describing on the following pages what has been done by our own folk of Los Angeles Gas and Electric Corporation, let it be understood that the intention is merely to relate what we have done or attempted; not presumptuously to set up a standard for others to follow. The fullness of detail is so that any who may be interested may be able to judge the more accurately how our plans would fit into their own conditions. If you don't like it, skip it!

The "Manual" Examination

We have a "Manual of Standard Practice," which quite fully describes the routine of the various operations in our organization and in addition gives some other useful information. The problem was how to stimulate the employees to sufficient interest to study the manual. It was suggested that we hold an examination. Then, in order to make the examination attractive, it was decided to make it competitive between departments; and in order to make the competition attractive, it was arranged that it should be initiated by a rather bombastic challenge from one of the departments.

The challenge, as published in our employee publication, is given for what it is worth:

"Mr. A. B. Day,
Vice-President and General Manager.
Sir:

"For the double purpose of stimulating interest in the new Employees' Manual and showing the kind of stuff of which our salesmen are made, I hereby challenge any department of the General Offices to a competitive examination on the matter contained in the "General" section of the Manual. In this challenge, I speak for the entire New Business Department.

"We agree in advance to any form and conditions for the examination which may be prescribed by a responsible committee. We don't have to make the rules in order to win.

"When, on a former occasion, I challenged the entire employee body to a stock-selling contest (which we won), I placed my reliance on the "loyalty and enthusiasm of the go-getters in my unbeatable department." And I do that still.

Respectively,

Frank Weiss,
Manager New Business."

The Idea Took Hold

The idea took hold instantly. In many departments classes were formed by the employees, teachers appointed and study began in earnest. Inasmuch as each department was debited with 100 points for each eligible employee, it was to the interest of every member to see that each other person in his group not only took the examination, but also made the highest possible grade.

Five hundred and twelve persons took the examination. The questions were so stated that they could be answered by striking out the incorrect words in a list of suggested answers. This was done in order to overcome the handicap of persons who were poor in penmanship or composition.

The average grade of the 512 persons who took the examination was 80.36 per cent, strict measure. The lowest average grade by any department was 75.75 per cent and the highest 91 per cent.

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* Presented at the Northwest Regional Conference of the Pacific Coast Gas Association, at Portland, Ore.

The "On to Portland" Examination

The manual examination had put it into the minds of a good many persons that it would be a fine thing to take up the study of other subjects related to the business. The outcome was that a more ambitious course, leading to an examination at the close, was prepared. This was not to be a departmental contest, but one between individuals. There were to be twenty prizes, ranging from a free trip to the Portland convention of the Pacific Coast Gas Association down to a flashlight. We called it the "On to Portland" Examination.

The subjects covered were:

The Year Book
Electro-Magnetic Induction
Gas Talks (a booklet)
The Pension System
Employees Life Insurance Fund
Gas Distribution
Elementary Electricity
Electric Meters
Gas Meters and Regulators
Rates and Rate Making
Gas Manufacturing Processes
Electric Distribution
L. A. Gas Preferred Stock

Lectures were held each week at which two or more of the subjects were presented by someone in our own organization capable of handling them. The lectures or synopses of them, were given to the students in mimeographed form.

Large Enrollment

Nearly six hundred persons from all departments enrolled. Due to the short time available for preparation of the studies, it was impossible to present the subjects as clearly or as simply as was desirable, with the result that many of those who enrolled became discouraged and either dropped out of the race or stayed out of the examination at the conclusion of the course. As it was, 110 persons took the final examination. The examination questions differed from those in the Manual examination in being so stated that it was necessary for the contestant to write out the answers in his own words.

The papers were assigned blind numbers, so that the examiners did not know whose work they were grading, and were separated and distributed among the members of the educational committee so that each member examined the same series of answers for all who competed. As a result, there was no hint of dissatisfaction with the finding of the committee.

N. H. Bradshaw was high man and winner of the Portland trip, with a grade of 99½%, with C. D. Cushman running second with 98½%. Forty-five of the 110 contestants received grades of more than 80%. The grading of the papers was very rigid.

The Courtesy Conferences

By this time our bunch had become accustomed to attending the company meetings, and rather enjoyed them, because we always made it a point to keep them spicy. So it was easy to make our next step, which was in the line of promoting greater courtesy in the public contacts of the various groups. For this purpose we organized what we called "Courtesy Conferences."

Our procedure was to issue a call to each of the readers or salesmen, requesting them to attend the Courtesy Conference and also that they each write an essay describing the proper discharge of their duties, with special reference to courteous treatment of the public. Attendance was insisted upon, but the writing of the essay was optional.

It was a surprise that so large a number wrote the essays. Hundreds of them were handed in. Some were very poor, some just poor, some fair, some good, and some mighty fine. But the point is that it set the employees to thinking about the courtesy side of their daily routine. Time, space and patience forbid the reproduction of any of the essays in this paper.

At each meeting a carefully selected member of the department was chosen to preside. There was no address on "courtesy," no lecture, no preachment. But a series of previously prepared and distributed questions started general discussions among the members of the group, which were eagerly partici-

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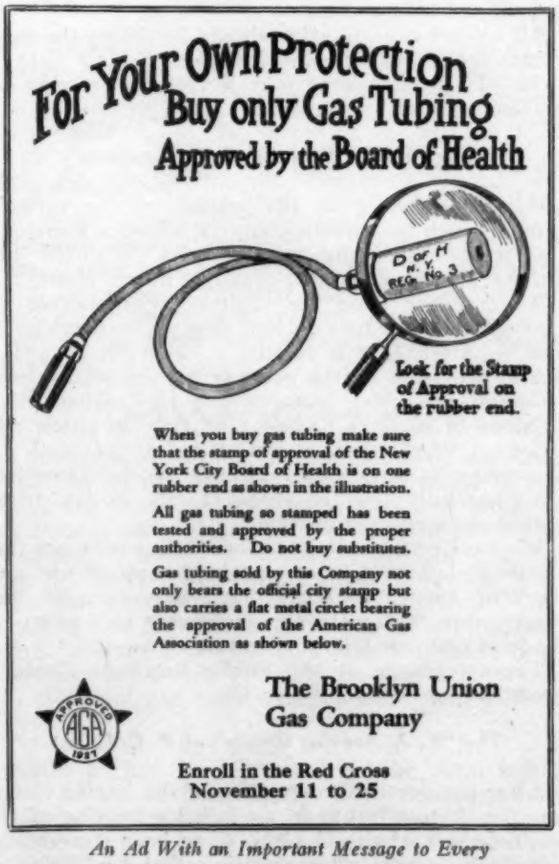
For Your Own Protection
Buy only Gas Tubing
Approved by the Board of Health
D. of H. N. Y. REG. No. 3
Look for the Stamp of Approval on the rubber end.
When you buy gas tubing make sure that the stamp of approval of the New York City Board of Health is on one rubber end as shown in the illustration.
All gas tubing so stamped has been tested and approved by the proper authorities. Do not buy substitutes.
Gas tubing sold by this Company not only bears the official city stamp but also carries a flat metal circlet bearing the approval of the American Gas Association as shown below.
APPROVED AGA 1927
The Brooklyn Union Gas Company
Enroll in the Red Cross November 11 to 25

An Ad With an Important Message to Every Gas Consumer

pated in by a great number. The various groups talked themselves into a very good conception of the importance and methods of courteous dealing. Just what practical effect it has had it is impossible to state.

A Series of Questions

Some sample questions for discussion in the Courtesy Conferences:

1. What is the proper approach of an Order Clerk to the consumer?
2. How far may I go in resenting a personal insult?
3. How far may I go in resenting an insult to the Corporation?
4. What does the "courtesy of the road" demand of me as an L. A. Service employee?
5. Give your prescription for a salesman's personal appearance.
6. May I ever "butt in" on a busy man's time?
7. How far may I go in insisting upon the payment of a bill at first presentation?
8. What do you say to the customer who complains about the size of his bill?
9. What can you do courteously to shorten the call of someone who shows a tendency to be long-winded?
10. What would you say to the consumer who expresses distrust of a meter?
11. What consideration should be shown the consumer's property by a meter reader?
12. To what extent may a collector engage in personalities with a consumer?

The "Public Relations" Conferences

After we had gone the rounds of the various groups which have public contacts, with our Courtesy Conferences, we inaugurated a series of "Public Relations" Conferences, held usually a month apart.

These differ from the Courtesy Conferences in that all the departments are invited to participate and the attendance is voluntary. There is always a liberal provision on the program for entertainment, although the chief features are the serious discussions of subjects having a bearing on public relations. Work that merits approval as well as practices that are open to criticism receive attention from carefully selected speakers—all, so far, from within our own organization.

We have no present intention of discontinuing the Public Relations Conferences, although if we can think up some new stunt that will sugar-coat the prescription in a more enticing flavor or a prettier shade of pink, we will not hesitate to use it.

The attendance at the Public Relations Conferences has varied from 275 to 330.

The "L. A. Service Group" of P. C. G. A.

After the Portland convention of the Pacific Coast Gas Association last year, we called a meeting of all our members of the P. C. G. A. to hear convention reports from our delegates. We called it a "Tales of Portland" meeting. The meeting was open to any who cared to attend, but space was reserved for all members of the Association, and also for those who took the "On to Portland" examination.

After the program, which has no place in this paper, we organized what we call "The L. A. Service Group of Pacific Coast Gas Association." All in our employ who belong to the Association are automatically members of the "L. A. Service Group."

The purpose of the organization is to give the great majority of our members, who never get to conventions, a "run for their money," and, equally important, to create a steering committee to help in selecting persons within our own group for association committee work and for the preparation of papers.

Three meetings of the "L. A. Service Group," in addition to the "Tales of Portland" meeting, were outlined for the year. The first of these, at the Gas Works, has been held, and the second, at the Gas Distribution Department, will be held as soon as certain relocation of departmental quarters has been accomplished. The last of the meetings will be held in our general office building, shortly in advance of the Annual Convention.

The "Big Party"

Shortly after New Years we held what we technically called our "New Years Reception and Party," but which in common usage was known as the "Big Party." This was possible because of the large amount of unoccupied space in our general office building.

Features of the program were a reception by the company officials, dancing and amusements. Provision was made for checking hats and wraps, for a children's play room, and for a duplicate of the amusement street of any live beach town.

This was much enjoyed by employees and families, who want a repetition of the event next year. There were over 4,200 people present, door count.

The Employees' Association

For some time many of our people have desired an association for social, educational and beneficial purposes. However, until we moved into our present office building we were without an adequate meeting place for such purposes. At present we are in the midst of the process of organizing an association. The interest may be understood from the fact that 90 per cent of our permanent employees signed membership cards on the first call. A year ago, before we began our series of employee activities, it is probable that the participation would have been much less general. So we feel that the response in memberships is, in some degree, a measure of the good-will effect of our course.

What Does It All Prove?

Nothing, so far as I know, except that employee meetings and activities, well planned and conducted,

have a tendency to improve the attitude of the personnel toward the company and its management. And that if courtesy and better consumer relations are woven into the theme of the events, improved public relations are certain to result. Which is nothing new, at that!

Suggestions

In putting over an employee program, one of the most useful helps that it is possible to have is a well-edited employee publication. By that is not necessarily meant an expensive, magazine-type house-organ with cover in many colors. In our own organization we prefer a newspaper-form periodical of four pages, each with four 13-inch columns, issued twice each month. This is much better than a larger monthly publication, for it enables announcements and presentations to be made more frequently. The two inside pages we devote to personals contributed by department correspondents. We have found this arrangement very convenient in a number of cases. When we wish to "put across" some employee activity, we merely appoint the Editor and his staff of twenty correspondents as a publicity committee, and instantly we have the machinery at hand to reach our whole force.

In explanation, our "newspaper" house-organ is published for employees only. For our stockholders, we issue a quarterly magazine-form publication, which is distributed to employees also.

One of the requirements for successful employee meetings is to have good chairmen and live programs. If the chairman is tedious or stereotyped in his manner of expression, it may be possible to disseminate some information, but it will be very difficult to generate any enthusiasm. And information without enthusiasm is likely to be "dead" information.

And so that is the tale of a year's major activities among the personnel of Los Angeles Gas and Electric Corporation. We have broadened our horizon, we have a barrel of fun, and we believe we have made a decided improvement in the spirit of our whole employee body.

Gas Sales Reach New High Figure

Prospects point to record breaking consumption during 1927

Alexander B. Macbeth

President, American Gas Association

ALMOST without exception opinion is unanimous among leaders of the manufactured gas industry that the present year will prove to be one of the most prosperous ever enjoyed by the industry. When preliminary estimates of gas sales for 1926 are made public shortly after the turn of the year, they are expected to show an increase of about 8 per cent. over the record-breaking figure of 421,400,000,000 cubic feet established in 1925.

Predictions that business in 1927, barring any serious industrial decline, will go ahead of 1926 were made at the Atlantic City convention of the American Gas Association, in October, and still hold good. Official statements were made by the best known men in the industry that the immediate future will usher in a new era in the history of gas utilization—an era of huge installations and of production on a scale hitherto unknown.

Some of the more important factors which have led to optimistic assurances of the future are the intensive development of all branches of the industrial, commercial and domestic heating business, the very probable further increase in the price of oil, the introduction of special rates for stimulating the house heating business, the industry's $500,000.00 research program along industrial heating lines, the National Testing Laboratory at Cleveland and the expectation that economical household refrigeration will be ready for national exploitation in 1927.

Some of the more interesting developments in the industry in 1926 which deserve particular mention are:

Significance of Industrial Load

Announcement made in September by the American Gas Association that $500,000.00 would be spent over the next five years to develop new large-scale industrial uses of gas and to improve gas-burning equipment, served to emphasize once more that gas service is fast supplanting other forms of fuel in this, the most promising field of expansion.

A 64 per cent. increase in sales of gas for industrial heating processes is the industry's record in the last five years. During the past decade industrial use of gas has increased more than 1,000 per cent.

Particularly significant were the statistics made public during the year showing the total fuel bill paid by the baking industry. The baker pays a total bill for five major fuels of $18,158,000.00, of which anthracite coal leads with an expenditure of $5,970,000.00, with gas second, at $5,250,000.00. Predictions

are being made that 1927 will see gas leading all other fuels used by this industry.

An investigation of the ceramic industry—the industry that makes our bathtubs, sinks and other articles of household utility—brought out the fact that a possible saving of $100,000.00 on each new kiln could be effected by turning from coal to gas. If this industry adopts gas as its standard fuel, each kiln would consume 6,000,000 cubic feet of gas a month. The ceramic industry offers a splendid field for the expansion of gas sales.

In practically every field of large-scale use of gas, the gas companies are making noteworthy progress. Today, the industry as a whole, sells more gas for heating purposes than it ever did for lighting—a field which it dominated years ago. In a comparatively few years the gas man has lost one kind of business and has substituted in its place another of almost unlimited possibilities.

Increased Use of Advertising

Local newspaper advertising by gas companies attained new heights of efficiency during the year. The trend is now definitely away from the short, intensive selling and advertising program, sometimes running only a few days and is toward a program of continuous education and sales activities. A well known company executive recently summed up the industry's best thought on the subject when he said: "We can better justify a rate based on a substantial and successful advertising effort than to apply for a higher rate because we have lost business through lack of advertising."

Alexander B. Macbeth

Introducing Gas Ice Machines

A noteworthy development of the year was the first national symposium on gas refrigeration held in New York City at which the trend of thought was toward house cooling as well as ice-box refrigeration. It was predicted that American homes automatically cooled in the summer and artificially warmed during the winter months is a development of the not distant future.

An engineer of a large electrical manufacturing company said it was practicable to heat homes in the winter and to cool them in the summer by using refrigerating machines instead of gas-fired boilers. He said a saving of twenty-five per cent. in the amount of fuel used for heating the home could be effected by absorbing heat from out-of-doors with liquid ammonia at a very low temperature. The increasing popularity of insulating materials will no doubt advance the day when automatic cooling of homes will become an actuality.

Development work on mechanical household machines can be traced back fourteen years, according to one authority, who said that $70,000,000.00 had been spent in bringing these machines to their present stage of usefulness. The consensus of opinion is that the gas-fired machine opens up an avenue of large sales possibilities for the gas companies. The new year promises to witness the active merchandising of several models introduced at the October convention of gas men.

Awakening to Smoke Damage

Publication during the year of statements from smoke inspectors, scientists and engineers of the tremendous damage to health and property caused by the burning of coal in the raw state have materially accelerated the change from solid fuels to gas.

Smoke, according to a specialist employed by the city of Cincinnati, costs the country $1,870,000,000.00 a year. To remedy this condition, he suggested two methods in fuel utilization: pulverize or carbonize. When the real market value of gas and its by-products is understood, he said, the prodigous daily waste of our available natural resources will stop.

Estimates place the cost of last winter's smoke pall in New York at $15 to $20 a family, with Cincinnati paying an extra $170,000.00 a year for laundering shirts and collars and Pittsburgh adding $16 per capita to the laundry bill. It was said 90,000 tons of soot fall every year in Chicago.

The National Testing Laboratory

One of the most important steps ever taken by the gas industry of America in behalf of the 52,000,000 users of gas service is the National Testing Laboratory in Cleveland, Ohio. In the sixteen months of its operation, the laboratory has attained a position of commanding importance in the industry. As of November 15, 1926, it issued an approved list of 14 types of flexible gas tubing, 44 space heaters and 1,731 gas ranges.

Conceived purely in the interest of public service, the laboratory has become a powerful factor in elevating the standard of gas appliance construction, is fast proving itself to be a stimulating sales force and, from the beginning, has concentrated the best thought of the industry on the utilization of a product which is a necessity to the domestic and industrial welfare of the country.

What the laboratory movement means to the gas industry is best illustrated by the action taken by the industry in convention assembled in Atlantic City last October. Here resolutions were passed unanimously declaring it to be the sense of the American Gas Association "that no gas ranges or flexible gas tubing which do not bear the laboratory seal of approval will be sold or offered by any member gas company."

The laboratory is not only receiving the active financial and moral support of gas companies and manufacturer companies, but has the full cooperation of representatives of the U. S. Bureau of Mines, U. S. Public Health Service and the U. S. Bureau of Standards. Opinion is unanimous both within

and outside the industry that the laboratory will gather strength as its work proceeds and will become increasingly important in stimulating sales of appliances and equipment.

Rapid Increase of House Heating

House heating by gas has definitely passed the experimental stage and with the advent of insulation and an increasing number of special rates, the gas industry expects the new year to show a record-breaking sale of gas-fired units. Homes completely insulated can now be heated by gas at an expense no greater than coal, and when special house heating rates work to the benefit of the user there is no longer any question what fuel to use.

Homes are now turning to gas for their heating requirements at the rate of about 100,000 a year, this figure, including, of course, the large number of small installations made on the Pacific Coast. New England companies are showing a very rapid growth in their house heating business,, the stimulus coming from special rates and from costly experience with erratic coal prices and uncertainty of delivery.

Thirteen hundred Baltimore homes heated by gas have replaced 20,000 long tons of anthracite and have incidentally saved the city 13,334 miles of coal truck traffic. Arousing of the public conscience against the smoke nuisance, the utilization of basement space for other purposes than the storage of coal, wood and ashes, the absolute freedom from fuel worries and the automatic character of gas service—these are some of the more important factors which are building up a load of substantial proportions.

Domestic Load Continues to Grow

The domestic heating load of the nation, firmly held by the gas industry—affords a large and dependable source of income practically unaffected by fluctuations of business activity. The cooperation of gas companies this year in the model home building program, the $2,500.00 prize contest for architects for plans for an adequately gas-equipped home, the recent introduction of colored gas ranges, the further development of water heaters, space heaters, incinerators, garage heaters, the automatic heat regulator, and the interest aroused in approved appliances by the National Testing Laboratory, have all served to swell domestic sales to new high figures.

Of particular interest to the gas-consuming public was the announcement made in November that 7,500,000 women had sought cooking instruction from their gas companies during the year, showing conclusively that home cooking is not on the wane. The survey brought out the information that 367,000 women had attended cooking classes and that 100,000 calls to give instruction and help in the home were made. A total of 303,000 telephone calls were necessary to take care of requests, 6,742,000 women listened in on radio cooking talks and 12,000,000 recipe sheets were distributed. The information proved that local gas companies as a group are the largest clearing houses for domestic information in the world.

In the course of the year prediction was made by an authority on home economics that back-door callers in the person of the ice man, the garbage man, and the coal man will soon be as obsolete as their romantic predecessor, the professional tramp, due almost entirely to the great expansion of gas service.

Colleges and the Gas Industry

That educational institutions of higher learning look with favor upon the future of the gas industry is shown by the large number of colleges which offer courses in gas engineering. During the year the first degree in gas engineering ever to be awarded by a university was given by Johns Hopkins to a graduate of the 1926 class. Nearly 1,000 students are now enrolled in a special correspondence course in gas manufacture offered by Columbia University and the American Gas Association.

Other Interesting Developments

Of the many developments during the year which illustrate the rapid strides made by the industry, the following deserve at least brief mention:

The successful operation of a new process for the recovery of a highly efficient sulphur compound which is said to give to the agriculturist an insecticide and fertilizer superior to anything of the kind on the market today.

An industrial plant in the middle west consumes in one furnace alone, 10,000,000 cubic feet of gas a month. Some large industrial customers now use more gas in one month than the average family uses in 235 years.

During the year the city of Baltimore passed an ordinance prohibiting the sale of gas appliances and tubing not conforming with American Gas Association specifications. New York City took somewhat similar action in regard to tubing.

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View of Equipment of Home Service Department, Rochester Gas and Electric Corporation

Advertising and Public Service*

It plays an important part in utility activities

M. S. Sloan

President, Brooklyn Edison Company

THE usual conception of the public utility, I think, is that of an agency whose service is used because it has to be. Under modern conditions we can't get along without the telephone, gas, electricity, the street cars, therefore we use them; and as commerce and industry develop, as population increases and communities spread, the business of the public utilities expands. So runs the popular mind. So, indeed, ran the mind of most utility executives a decade ago.

Nothing could be further from the fact today, whatever the fact may have been then. Operating a public utility now is a selling job. We have to sell service. We have to sell our securities, and as a large distribution and a local distribution of them are always desirable, we often sell them directly instead of through bankers and bond firms. We have to sell our companies as institutions, sell the idea that they are organizations for public service; and this is frequently more important and more difficult than any other phrase of our selling problem.

Not a "Take It or Leave It" Business

The changing conditions that made public utility operation a selling job as distinguished from a "take it or leave it" business made utilities advertisers. They will be bigger advertisers tomorrow than they are today, because they ought to be, on theory and on results. They will advertise more, and more of them will advertise, because through advertising they, as business organizations, will benefit; their customers will benefit; and society will benefit.

I esteem it a great privilege to have this opportunity of discussing with you the part advertising has in public utility service. We of the utilities will have to look to your profession for advice and guidance far more in future than ever before; and we shall require not only your professional interest and understanding, but also your sympathy and co-operation as a body of citizens potent in forming and directing aright that greatest of forces, public opinion.

We are considering, if you please, a business which today has a capital investment in our country of some twenty billion dollars, and owns property whose actual value far exceeds that sum. Its products, that is, its various forms of service—for service is what utilities make and sell—have an amazingly wide distribution. They go into homes of every grade, from the humblest to the highest, all over the land. The multitudes of the metropolitan centers and the family on the far-back farm alike find them indispensable. Business and social life would come to a standstill without them. Our present standards of living depend on them; future advancement cannot come without them.

This vast and valuable business interest, however, is neither one unit—a company—nor a "trust." It is divided into four major branches: the telephone, electric, gas, and street railway utilities, which furnish communication, light and power, heat, and transportation service. Each branch is composed of many companies, of independent ownership and management, ranging in size from the tiny village electric plant, not yet replaced by modern transmission line service, and the farmers' telephone line serving a remote country-side, to great metropolitan organizations and systems whose service covers half a state, a state, or group of states. Whether the utility is small or large, and whatever form of service it may supply—in my working life I have been connected with little and big ones, and with companies engaged in three out of the four lines of work—its selling job reduces to conditions common to all.

Utility Must Sell Service

The utility must sell its service, in order to live. That means that it must make its service worth selling, which means worth using and paying for. It must sell its service at prices which will induce the widest possible use, and still keep it solvent and give it good credit. Its standards of service and its prices, mind you, are subject to the orders of public officials, because it is under the law a business affected with a public interest; so in effect the public has a control over its affairs which extends far beyond the decision whether or not to be its customers. And finally, since it is a business affected with a public interest, dependent on the use of public property under legal grant for the conduct of its business, supervised and regulated by agents of the public, the utility must sell itself to the public as an institution worthy of public confidence, public respect, and public approval.

That is the business aspect of selling public utility service. There is another aspect, equally important to the utilities, more important to the public, which is the social aspect. It is generally conceded that no country in the world today has standards of living so high as ours. In no other land are wages so high, are homes so comfortable and so well provided with conveniences, even luxuries; in no other is there a wider diffusion among all groups of the population of those things which make life easy, pleasant, and worth living. Credit for a good part of this can justly be claimed by the public utilities which have recognized their business opportunity and their social privilege and duty to carry their service to all who can make use of it with advantage. They cannot help regarding with pride the fact that they have

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* Delivered at the Convention of the Associated Advertising Clubs of the World, Philadelphia, June 21, 1926.

been largely instrumental in lifting the burden of toil from human backs in homes and in factories; the fact that they have helped to increase production and raise wages; the fact that they are indispensable servants of prosperity and plenty, working for mechanic and millionaire with equal zeal.

Advertising a Great Aid

How well the utilities might have been able to succeed as businesses, how far they might have progressed in their social duty of helping humanity through their service without advertising, it is idle to speculate. The point is that they have reached their present state by and with the aid of advertising. It has worked for the public in working for them. It has helped them to grow; it has helped to raise the capital which has made their growth possible; it has helped by increasing business to make unit costs of service lower. It is today, as I see it, an essential phase of the service they furnish to the public and an agency through which greater service may be put forth.

The growth of public utilities is one of the outstanding phenomena of our country's amazing progress. We accept them today, we regard them as commonplaces; yet in our parents' time they were struggling pioneers. And today they are still pioneering, reaching out into territory not yet served, or insufficiently served, and bringing the genius of science, the skill of finance and the devotion of unconquerable zeal for improvement to bear on the needs and desires of humankind.

Quality of Service and Price Fundamental

The quality of the service and the price are fundamental elements in our selling problem. It is necessary for a utility to be prosperous in order to furnish modern high class service which shall be satisfactory to its customers and beneficial to the community in that it is planned ahead and kept growing with a proper consideration of community needs. Unless the utility has a sufficient margin of surplus or profits to carry along its improvements and expansion of service facilities until their cost can be capitalized, its service will suffer, and the customers and the community will suffer.

Yet this prosperity must be held within certain well-defined limits, both as a matter of law and a matter of business. Prices, as I have said, may not be so high as to discourage the obtaining of new customers and new business. The utility's desire, as a business organization, and its duty as a public service organization, is to serve as many customers as possible and as much as is possible. And, being affected with a public interest, it is by law held to rates which yield only a fair return on the value of its property used and useful in the public service.

An understanding of these basic facts by the public is essential to the utility on two counts: first, to make selling service easier, or to break down sales resistance (as I believe is the technical term in your profession); and second, to break down a long-standing suspicion in the public mind that utilities are profiteers and habitual robbers of the people, which frequently impedes the carrying out of plans of far reaching social benefit.

Development of Utility Advertising Marked

So in recent years the utilities have taken to advertising. Ten years ago advertising by public utilities was unusual. It was confined to organizations which were very large, or were far visioned, or both. It was, almost always, what in my branch of the industry we call merchandise advertising, matter to sell electrical appliances, gas ranges and the like. At the time I doubt whether all advertising which might be credited to utilities, including financial notices of new issues of securities, would have exceeded four or five million dollars a year. Last year, according to our Public Utilities Advertising Association, the aggregate of advertising expenditures by all branches of the utility industry amounted to $25,000,000, and it is estimated that during the present year the expenditures may well amount to $27,000,000 or $25,000,000 with about $20,000,000 of this good round sum in payment for advertising in newspaper columns.

The utility, being a quasi-public agency, is required by law, and by all considerations of good business and sound public policy to conduct its business openly and publicly. Some wit has said that there is no more concealment of their affairs than there is in the art of cookery as practiced by the man baking flapjacks in the window of a Child's restaurant. Officially that is true. Our accounts are kept according to a standard form stipulated by the official regulatory bodies; and our reports, which are public documents, are made up in the vast detail these bodies require, and sworn to. These reports, however, are technical, and while useful as matters of record, are not often consulted by members of the general public. Hence a more general means of contact with the public, and a more interesting and human one, is needed. Advertising, chiefly newspaper advertising, has been found ideal to meet the need.

Newspaper Advertising

It is hardly necessary to tell this audience what newspaper advertising can do and does. What it is capable of doing for other businesses, it has been found capable of doing for the public utilities. It enables us to interest our customers in new ways of using service and to point out to them the advantages of a greater use of service. In this connection I might add that it has been distinctly educational to the utilities as well as to their customers, for in the endeavor to advertise our service effectively we ourselves have had to gain a new conception of service values. Today we find street railway companies definitely thinking of themselves as purveyors

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Possibilities of Water Heater Sales *

Their relation with the domestic gas load is explained

F. A. Lemke

President, Humphrey Co., Kalamazoo, Mich.

AS commercial men, your work is selling, but there is an obligation to your company greater than that represented by mere dollars of merchandise sold, however large or small they may be. It is an important obligation. It is an obligation to increase the use and sales of gas. There are three angles to this discussion:

Can gas water heaters increase gas sales?

Is the gas water heater market large or small?

Are gas water heaters valuable to the public?

About gas sales procurable from gas water heaters, so many figures and such exhaustively complete ones have been cited in papers and discussions at previous meetings, all of which are a matter of record and available for reference and study, that instead of a dry lot of statistics let me repeat the statement of the operating head of an old and large holding company, as follows:

"The best figures we can make indicate that only about 25 per cent of our customers use a gas water heater, and that if we could get 25 per cent more doing so, the result would be a 20 per cent increase in our total present send-out."

A Vast Unsold Market

There you have a perfectly startling answer to how gas sales can be increased by gas water heaters, and how vast the unsold market is today.

Only one out of four of their gas users has any kind of a gas water heater now, and in spite of all other uses for gas, including industrial gas sales, a gas water heater placed in the homes of only the same proportion of present gas users as now, 25 per cent, which would mean only 50 per cent of gas users so equipped, would increase total gas sales 20 per cent. Isn't that a remarkable opportunity for business and, as that same gentleman said, "The most profitable business to be had," because the expense of handling it would be little or nothing and the load factors very good indeed. It looks so very rich one can't but wonder what other industries would do with it if it were as invitingly before them.

The same gentleman has added, "This is more desirable business for gas companies than industrial gas business or house heating business, and more attention should be given to this business by gas companies."

F. A. Newton on Water Heater Business and Sales

The need of gas sales and the influence on them of good gas water heater business was also set forth very clearly by F. A. Newton in an address before the Michigan Gas Association, which was such as to justify repeating parts of it, and especially so as he expressed gas company opinions based on studied figures as follows:

"In the field of domestic use of gas we face a serious situation. Have you examined your domestic sales per customer for the past ten years? Have you found that sales per customer increased up to 1920 and are now decreasing? Many of us have been surprised to find that domestic use of gas per customer is falling off. There are a number of reasons for this. It is certain that baking is not being done at home as much as in former years. Laundry work is also being sent out of the house to a greater extent than formerly. These and other changes in housekeeping methods are extremely significant from our standpoint.

"The greatest opportunity for the general development of domestic gas use is the heating of water. Generally speaking, we should be ashamed of the low rate of water heaters to the number of homes served with gas. This is most desirable business. The additional investment required to serve a water heater is surprisingly small. The diversity factor of this class of load is excellent. This class of business, however, is very poorly developed."

The Actual Market

There is still another angle to the question, "Is the gas water heater market large or small?" A recent survey in three important, prosperous cities of good size developed facts that can only be expressed in figures, but which are so interesting as to justify expressing them.

These three cities showed that after years of aggressive selling an average of 39 per cent of the gas consumers had a gas water heater of some kind or other, but of all those so equipped an average of 89 per cent in these three cities had tank water heaters, leaving an average for these three cities of only 11 per cent equipped with automatic gas water heaters of any kind.

There you have a picture of a big market for the sale of domestic gas water heaters to homes that are now equipped with only tank water heaters, which in these wonderful days certainly cannot please people who in other respects desire and buy and possess other services not so needed, less useful and most costly to secure.

Two Divisions

This emphasizes that the market has two divisions. First, the vast number of homes that are today using no gas water heaters at all, and, second, the great number of homes that should have and would be

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* Delivered at the Wednesday meeting of the Commercial Section, A. G. A. Convention, Atlantic City, October 13, 1926.

As The Journal Views It

CO-OPERATION WITH THE PLUMBER

The good-will and co-operation of the plumber and of the heating and piping contractor has always been necessary to the gas man, and at the present time there is scarcely any question in the reader's mind that such co-operation is more necessary than it has ever been. For today the gas industry is developing its domestic load far more widely than ever before in its history. And if its campaign to increase the sales of all sorts of gas burning appliances, including house heating boilers and furnaces, is to be a general success, and if the domestic consumption of gas is to be increased in greater proportion, the co-operation of the plumber and the heating and piping contractor will unquestionably be important features in bringing this about.

It is accordingly interesting to learn that the various associations of plumbers and contractors have been discussing this matter with our own association and have come to the conclusion that greater co-operation between these industries is bound to result in benefit to all concerned. The last meeting was held in October and at that meeting summaries of information collected by each association throughout the country, concerning sales and installation policies, were read. Opinions were found to vary in different localities and it was also indicated that it was still necessary to exert considerable effort in order to foster greater joint activity of the gas industry, the plumber and contractor, before the desired co-operation could be obtained.

Resolutions were adopted and these have been sent out by the A. G. A. as well as by the other associations involved, asking the members of the various industries to consider this situation carefully and to make a distinct effort to iron out local difficulties and to co-operate more effectively with one another. It was also brought out that the work of the new appliance testing laboratory and the effort of the A. G. A. to standardize the use of approved appliances in the home, would be furthered to a marked degree by having the full co-operation of the plumber and the heating and piping contractor.

Another important matter was that the co-operative advertising of house heating, which has achieved considerable success in certain localities. The gas man does not have to be convinced of the importance of this work, for he instinctively realizes that the gas industry recognizes the value of co-operation. For, within its own limits the gas industry has shown a co-operative spirit that is unequaled in any industry. There are of course many difficulties and many disputed points between the plumber and contractor and the gas industry, most of which have occurred since the early days of our industry, but there can be no question that if all parties concerned approach the problem in the right frame of mind, a solution can be reached that will be satisfactory to all. This work of the A. G. A. and of the committee of the Pipe Contractors National Association and of the National Association of Master Plumbers is highly to be commended, and the gas industry and each individual gas man is urged to exert every effort to promote this work so that the point might eventually be reached, where there will be full co-operation between all concerned.

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"READINESS TO SERVE" IMPORTANT PART OF GAS SERVICE

In granting the request of the Portland Gas Light Company for a change in rates involving a reduction in the cost of gas, the Maine Public Utilities Commission has approved the inclusion of a service charge, whereby each customer pays for the actual cost of service whether or not the gas is used. The inclusion of this service charge permits the gas company to reduce the cost of the gas itself in direct proportion to the quantity used, thus serving all customers alike, as compared with the previous one-rate basis whereby the small customer was served at a loss which was made up by the larger user.

In commenting on the service charge principle, the commission points out that—

"The service charge is one of the refinements of rate-making. The advent of public utilities initiated rates which were measured only by what the customers would pay and still use the service. With developing competition and especially with regula-

tions came the requirement that the incident of rates should be equitable—that is, equal to customers similarly situated.

"While gas was used only as an illuminant, rates for heating houses, or for firing of furnaces of industry, were unnecessary. Its consumption is now classified generally as domestic and industrial, or commercial.

New Service Avenues for Gas

"The last decade has opened new avenues of service for few public utilities more generously than for the gas industry. The adaptability of gas to industry and to house heating is now a demonstrable achievement, and the petitioner recognizing the trend seeks to adapt itself to fulfilling the demands of the times. These conditions have stimulated an endeavor to formulate rate structures permitting large scale production without detriment to the gas requirements of the small user.

"The consequences of these economic adjustments have brought to the attention of the commission and the court rate structures in which the service charge is present as a factor. Conspicuously outstanding, however, is the fact that the elements constitutive of a service charge are in every rate base somewhere, whether so denominated or otherwise.

"The authority of economists, of regulatory bodies, of courts, of recognized soundness of reasoning, sustain the readiness-to-serve element of utility rates."

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ADVERTISING AND PUBLIC SERVICE

(Continued from page 11)

of transportation, and advertising themselves according to that conception, rather than merely as people who run street cars and carry passengers. There's a difference. We find gas companies advertising a smokeless, ashless fuel requiring no storage space, delivered to the point of use precisely when and as you need it, and paid for after use. We find electric light and power companies advertising energy produced with the most efficient utilization of nature's resources, delivered for use in increasingly efficient manner, which in use increases production and decreases costs.

Advertising has enabled us to obtain capital in large sums without which necessary and desirable extensions of our service facilities would have been impossible. It has permitted us to tell facts about our service and the companies which furnish it which have convinced investors that their savings would be safe, and profitably employed, when put to work in the utility business. I think I am well within the facts when I say that without advertising the success of the customer-ownership method of selling securities, which has been so outstanding a feature of public utility progress in recent years, could never have been possible.

Advertising and Marketing Securities

The value of advertising in creating a market for utility securities, both among their customers and among the general public which must absorb securities underwritten by bankers and syndicates, has been highly important to us. My belief is that it has been at the least equally important to the public. It has brought to the attention of hundreds of thousands of small investors the possibility of purchasing sound securities, frequently on the partial payment plan. It has made their purchase simple, understandable, easy—to the considerable discouragement of the peddlers of swindles such as your Better Business Bureau is constantly endeavoring to abolish. It has been instrumental in the last few years in giving to a great army of American citizens the satisfaction of knowing that their capital, no less than Wall Street's, can be hired out with advantage to them and with benefit to the social-economic system in which they thus acquire an interest other than that of labor.

Most important of all the uses of advertising to the utilities, in my mind, is its potency in selling the utilities themselves to the public; that is, its value in informing the public of the basic economic facts which govern the operation of the industry, the way in which these affect the utilities and the public, and the consequences of interfering or attempting to interfere with them.

Most of the controversies in which utilities find themselves involved, which have given them an evil repute with the public (or at least some considerable portion of the public) are needless. Worse, they are tremendously wasteful, wasteful of time and effort and the public's money, for it is always the public which foots these bills. They grow up not because the public is unfair or at heart inimical to the utilities, but because the public is ignorant of the facts, and is misled, or because the facts are intentionally misrepresented and distorted for political purposes. It is very easy for some vote-seeker to get a following by hammering a public utility if the utility does nothing about it. It is by no means easy, frequently it is distinctly unprofitable, if the utility has been an intelligent and consistent advertiser. If it has told the facts about its service, its costs, its earnings, its growth, its plans for further expansion, its policies and practices in its job of serving the public, the community of interest between the utility and the public it serves, you as advertising men and women know these facts will have to work for it. We of the utilities have learned this through experience.

(Continued on page 16)

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 150

Manufactured Gas

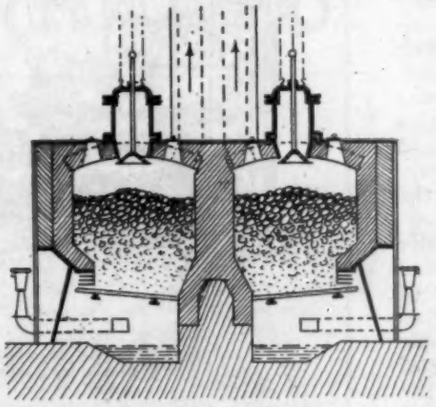
Producers are classified into five general classes, or rather there are five general principles in producer design. These also make it possible to distinguish between various makes of producers.

Thus, producers differ in accordance with:

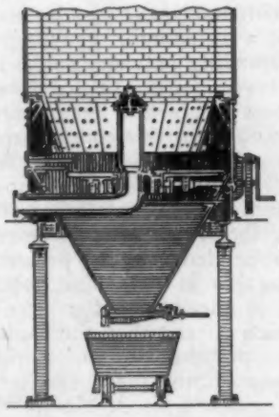
1. The direction of the draft.
2. The pressure.
3. The method of feeding and raking.
4. The method of removing the ash.
5. Cleanliness in the gas.

PRODUCER GAS

Interesting Types of Producers



The Siemens Producer (shown at left,) embodies four producers in one unit. Artificial blast makes possible the use of a higher fuel bed.



The Taylor Producer (shown at right,) is designed so that ash removal is effected by mechanical means.

The Draft

As far as the draft is concerned, there are two general types of producers, one in which the draft

travels from the bottom upward and the other in which the draft is forced down from the top to the bottom of the fuel bed. The first type is the most common, but, when it is used, it is generally found that the bituminous coal lying on top of the fuel bed will be subjected to distillation and a certain amount of tarry and sooty material will be carried along with the gas. The second type of producer, in which the draft travels from the top downward, makes a much cleaner gas and also a gas that contains less moisture, due to the fact that the moisture driven out of the fuel is made to react with the incandescent coal in the fuel bed. However, due to a number of mechanical difficulties, this type of producer has not been as popular as the other.

As far as the pressure within the producer is concerned, it is possible to operate under a pressure greater than atmosphere as well as under one that is less than atmosphere. In other words, there are both suction and positive pressure producers.

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(Continued from page 14)

Educational Advertising

More and more advertising of this educational type —good-will advertising we call it—is being used by the utilities. Some not yet converted to it argue that it is unprofitable. I have even heard the argument advanced that it is uninteresting, because it does not touch directly the immediate concerns of the people who are expected to read it. As to that there are two things to say. The first is that if it is undertaken and proves uninteresting, the fault is in the advertising matter itself, not in the principle. The second is that nothing could touch more directly the interests of the public than an exposition of the basic facts of utility financing, regulation and operation, because on them depend the quality of utility service and the prices of utility service for the various classes of users. And on service and price, in turn, depend the use of utility service, which directly affects practically every home, every store and factory, the growth of the community, the standards of living.

Only through a constantly growing, constantly bettering understanding between public utilities and the public they serve can the future development of this great business interest be made certain. What the utilities have done for this country and its people is only a good beginning of what they are capable of doing, with such mutual understanding and proper co-operation. And, greatly as they desire to fulfill the destiny they foresee, it is even more to the interest of the public that they be permitted, be encouraged to progress in extending service, in improving service, in cheapening the price of service. It is not too much to say that the maintenance of America's present proud position of world leadership is involved in their continuance of progress in that direction.

The Servant of Understanding

Advertising is the servant of understanding. Newest of the aids we have summoned to work for us in our industry, it is nevertheless one which we shall have to employ widely in our conquest of the future. It must interpret our policies and our complicated operations to the public, as only it can. It must weave between our industry and the people who govern our destines the bond of understanding which comes from a knowledge of facts. It must build stronger for us, as it can do, the structure of customer-confidence, of public respect and approval.

On it we must rely, as never before, to herald our accomplishments. On it the public will rely to check us up to see whether our accomplishments are what they should be in view of our responsibilities and the privileges granted to us. As our engineers span space with their lines, throw dams across great rivers and harness waterfalls, tunnel mountains and bridge chasms, advertising will erect structures not the less lasting and essential in this scheme of service because intangible—structures of understanding, builded on facts.

We should never dare to give advertising the importance in our general scheme of service it has attained, or to place so much reliance on it for the future, if advertising itself were different from what it is. But when advertising is Truth, and when the utilities, looking to a truthful presentation of their case for the growth of the understanding required, employ it as their advocate, they stand on firm ground and can be certain their interests and the public's will be equally well served.

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Quick Hot Water Service for Every Need
The gas water heater provides hot water in any quantity for every home need.
Gas service is ready instantly to meet any emergency which may arise. No waiting, no effort, simply turn a valve.
Circulating and storage type water heaters are displayed at your Gas Office. Detailed information and prices are available there.
Telephone: TRiangle 7500
The Brooklyn Union Gas Company

Hot Water Heated by Gas Fills Every Emergency

GAS MERCHANDISING

Domestic – Industrial

Ideas for the Man Who Sells

William H. Matlack

THANKING THEM TWICE

WHEN you sell the customer and secure his down payment on a gas appliance you thank the customer which is perfectly right. This, however, generally ends the transaction in so far as the sales department is concerned. The home service department follows up the installation of the appliance, if it is a range, and the service department if the customer registers a complaint; otherwise there is no contact with the customer other than that when he calls at the office to pay his monthly payments, and in a great many cases he mails a check. Once a customer is developed and sold, it is our idea that he should be sold again and again. To do this some contact must be made by the sales department, for this department has sold him first and has taught him in the majority of cases the value of efficient appliances and the value of the divided payment plan of purchasing home needs. The way a follow up is made by one company is illustrated by the letter reproduced below:

Your Gas Company Thanks You!

Our records show that you have made final payment on the merchandise purchased from us. We take this opportunity to thank you for your patronage and unfailing promptness in making payments.

Now that you have become accustomed to applying a fixed account, each month, to better home equipment; it occurs to us that you may desire to continue this plan. Probably there are other appliances which we sell on the divided payment plan that would prove helpful in the management of your home.

We are always glad to show you these appliances or to suggest ways and means for adding comfort and convenience to your home equipment. Our office is open daily from 8 to 5 p. m. and until 9 p. m. Saturday.

Our experience has been that the best recommendation that we can secure is satisfied customers. We ask you to recommend our plan to your friends, who might be interested in better home equipment.

May we have the pleasure of the continuation of your esteemed patronage.

Very truly yours,
ILLINOIS POWER & LIGHT CORP.
By.....
Sales Manager.

.....
Appliance Purchased

You will note that the customer is thanked again and that it is suggested that he buy other appliances. Now this letter would not be so good if it were used alone, but used along with a prospect card, which is turned over to a district salesman, it works out nicely and develops many sales. This is the way it works: As soon as the customer completes his payments on an appliance, the accounting department sends a notice to the sales department to the effect that "J. Blank" has made his final payment on a certain appliance. The sales department then sends Mr. Blank the letter and makes up a prospect card and turns it over to the salesman covering the territory in which Mr. Blank resides. Salesmen follow up the prospect and in many instances sell him an additional appliance.

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BROADCASTING

BROADCASTING a daily menu with tested recipes is making better cooks and aiding the gas companies, hardware dealers, furniture dealers and department stores to sell gas ranges and kitchen equipment all over the country. The daily lecture by the gas company's home service director reaches thousands and thousands of prospective customers that the gas company could reach in no other way. Take the Smiths who live at Tankville, where there is no gas service. Mrs. Smith and Pansy listen in every day and soon learn all about the

wonders of gas for fuel and the modern gas range and when suddenly, one day, papa Smith is promoted —the railroad company having given him a preferred run which necessitates the moving of the Smith home to the city—do the Smith's purchase a gas range? Ask Pansy! "I'll say we want a gas range and we want one like the lady demonstrates on at the gas company—you know the radio lady—the one that uses the oven with the heat control."

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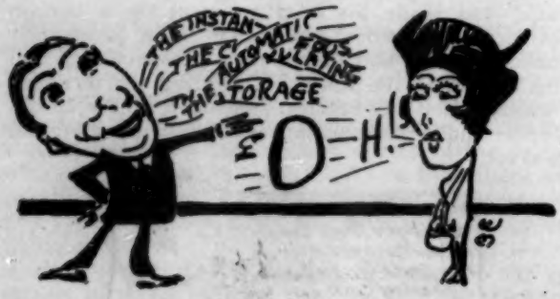
SOMETIMES

SOMETIMES the customer does not buy, for the simple reason that the salesman overworks his sales talks. Everyone has encountered this over zealous fellow who knows his stuff and is so full of it that he wants to tell prospective purchasers all about everything on display. To illustrate, we know a cracking good water heater man (he knows the whys and wherefores of every type on the market)



who often fails to clinch a sale for the simple reason that he will talk about every type handled by the company, and all in one breath, so to speak. Experience on the other hand indicates that if the man, who knows his stuff, would dwell upon one type at a time, a type that his customer should have, (he may ascertain this by a few questions; such as number of baths, hot water spigots and people to be served) his sales commissions would be increased 100 per cent.

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POSSIBILITIES OF WATER HEATER SALES

(Continued from page 12)

pleased with an automatic water heater but which are getting along right now with nothing more than a tank water heater.

The third question raised in the beginning of these remarks was, "Are gas water heaters valuable to the Public?." A little investigation on the part of anyone doubting that point will quickly convince them of the value of gas water heaters and particularly of automatic gas water heaters, which have such large value to you and your company in producing gas consumption.

Hot water must be had for almost too many purposes to mention—daily and many times a day, and by every individual in the home. If there is anything at all other than a gas water heater that will provide hot water so easily, abundantly and cheaply as a gas water heater, what is it?

Other equipments using other fuels will do it but not so well. Again, comparative figures in detail have been too completely given in past meetings to justify using your time to repeat them as they are all on record.

Competition Amongst Fuels

There is, though, this to be said for present conditions. Competition exists among fuels as well as among equipment or appliances. Coal is not dead—far from it. Coal people are advertising coal burning water heaters to get coal sales—to increase their coal send-out. Oil seeks the business. Electricity does too.

No other fuel possesses all the advantages of gas, and once the business is secured by and for gas, it is kept—but until then the competitive fuels and appliances have a chance to get it, which suggests the wisdom of going after it and getting it while the getting is good.

It is estimated that 625,000 gas water heaters were sold in 1925, and that during the same time 125,000 coal burning water heaters, with all their troublesome, dirty handling requirements, were made and sold. One coal water heater to each four gas water heaters—a comparison that asks the question, "Is the selling job well done with gas water heaters?." A point well worth thinking about, considering both the splendidly designed and manufactured gas water heaters available for your costumers, and the publicity and effort behind them.

Conclusion

Summing up the three questions, we have the facts that the need of greater gas sales exists; that gas water heaters can meet the need; that the market from two angles is large, and that gas water heaters are of superior value to the public.

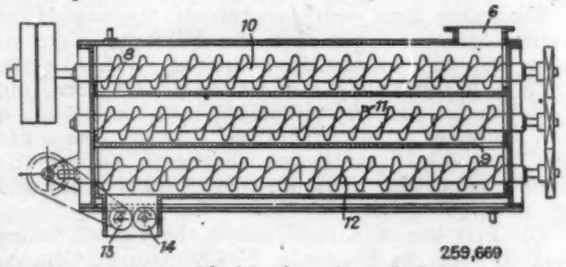
In conclusion, there is one other point. It is the often asked question, "Why can't we sell gas water heaters in quantity like stoves?" The answer to that very apparently is in the difference in volume, variety and steadiness of efforts made to do the business. Stoves have been hammered into public consciousness by every means and all the time for many years.

Now and then, efforts often of a very different sort will not secure this splendid business in any big, worthwhile way. It is my belief though, that the importance of the business recommends the same constant, consistent, insistent, persistent efforts at floor and window display, at advertising of every sort and at selling, that have been behind the stove business and also that such active efforts will secure this splendid water heater business, enabling you and your company to reap the rich rewards procurable from it.

PROGRESS IN GAS TECHNOLOGY
Domestic and Foreign

NEUTRALIZING AMMONIUM SULPHATE

THREE long horizontal compartments 1, 2, 3 are arranged one above the other and are heated by a steam jacket along each side. The compartments contain screw conveyors 10, 11, 12, and the sulphate is admitted at 6 and passes out through



259,669

a pair of rollers, 13, 14. Openings 8, 9 are provided for the passage of the sulphate from one compartment to the next. The neutralization is effected by ammonia which flows through the apparatus in counter-current. Alternatively, the neutralization can be effected by soda ash or other alkali introduced with the sulphate. (British Patent No. 259,669.)

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VERTICAL RETORT TAR FOR ROAD MAKING

A DETAILED investigation was made by the British Road Tar Association on the usefulness of vertical retort tar for road making purposes. There has always been considerable variance of opinion of the usefulness of tars for this purpose in comparison with bitumen, but it has been found, as a general rule, that where the tar has not proven satisfactory for the purpose, the fault has not been due so much to the intrinsic properties of the tar as to the fact that it had not been properly prepared. This is a very important point, and it is essential that proper dehydration of tar take place before it is used for road making purposes.

The problem of the use of tar, particularly vertical retort tar for road making purposes, is one that involves three persons. One is the tar maker or producer. The second the tar refiner, who, in some cases is the producer as well. And the third is the tar user, that is, the man who makes the road. There is no question that there is some connection between the method of carbonization and the usefulness of tar for road making purposes, but it is generally found that a change cannot be made in the carbonization process in order to produce a road tar without incurring expense that is not justified.

In comparing vertical retort tar with that made in horizontal retorts, so far as its use for road making is concerned, it has been claimed that the vertical retort tar is superior for the reason that it has a lower free carbon content. This is based on a contention that the less free carbon in the tar, the more elastic it is, and some corroboration of this fact is obtained from the knowledge that bitumen, which contains no free carbon, is more elastic than coal tar.

Attention is also paid to the production and use of pitch from different coal tars, and the use of these pitches in bitumen mixtures, which appears to be a very desirable practice. The reason for this is, that the cost of the mixture is less, inasmuch as the pitch is cheaper than bitumen and also inasmuch as the mixture is more homogeneous and stable. The Gas World, 1926, pages 566 to 569.

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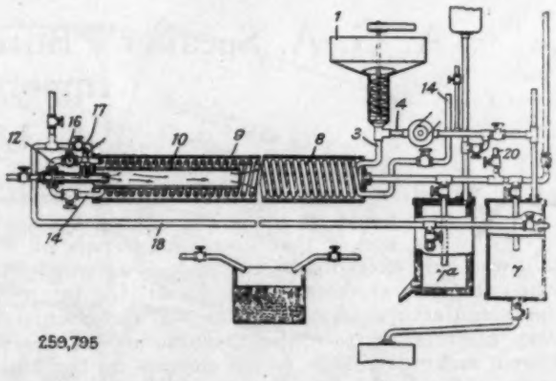
TREATING CARBONACEOUS MATERIALS

THE process is for treating coal or oil shale in a pulverized condition to obtain volatile by-products and carbon, or alternatively, a maximum yield of gas. The coal is distilled while in suspension in a current of gas, and a fluxing agent is previously mixed with it to form a slag with the ash. The carbon and slag are afterwards separated. Finely powdered coal with or without a flux such as calcium or iron oxide or sodium carbonate passes from a hopper 1 to a feed pipe 3 which is in communication with a gas or liquid conveying pipe 4 so that the coal and flux are fed in suspension in the gas or liquid into the coil 8. The combustion chamber 9 contains a refractory element 10 in which com-



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bustion takes place to heat the coil 8. Some of the liberated gas may be withdrawn through the pipe 12 and meets a supply of hot air which has passed through the pipe 14 interwound with the pipe 8, the mixture being burnt in the tube 10. The remainder of the gas passes through pipe 18 to a tank 7 into which water is introduced through pipe 20 to bring down the carbon and slag particles. Alternatively the solid particles may be collected dry in the tank 7a. The coal may be treated by direct contact with the flame by closing valve 17 and opening valve 16.

Oils and gases from the tank 7a pass to the tank 10. The carbon particles may be separated from the slag by any method depending on the difference in specific gravities. The carbon may then be mixed with the oils and tar removed from the gases to obtain a liquid fuel. (British Patent No. 259,795.)

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MANUFACTURED GAS IS REPLACING NATURAL THROUGHOUT N. Y. STATE

The natural gas companies of New York State and the consumers of natural gas are again facing the winter shortage problem which has become increasingly severe for the past six years.

Numerous up-State cities and towns, among them Buffalo, Elmira, Caledonia and Pavilion, have had to increase available supplies of natural gas by the addition of manufactured gas. A recent announcement adds to the list a new pipe line twenty-five miles long from Tonawanda via Akron and Attica to Clarence. This main will supply the communities along its route with what natural gas is available and will mix with this supply about one million cubic feet of manufactured gas a day. A gas manufacturing plant is being built also at Hornell in Steuben County.

The storage of natural gas and the increasing demand has made it necessary for the Public Service Commission at various times since 1920 to protect domestic consumers by restricting the industrial use of this fuel.

A survey of New York State shows about 170,000 domestic consumers of natural gas and less than 400 industrial consumers, making the shortage fall with peculiar severity upon homes in the natural gas district. There are in the state approximately 2,000 natural gas wells. These, with the natural gas pumped in from Pennsylvania produce a yearly supply of about fifteen billion cubic feet, or thirteen per cent of the State's manufactured gas supply of one hundred and ten billion cubic feet a year.

For more than two generations the supply of natural gas, in those parts of the State where it occurred, was apparently unlimited. But, like the Buffalo, it could not last indefinitely, and increasing demands for gas and increasing uses have made a new source of supply imperative. The gas companies are, therefore, turning to manufactured gas as rapidly as possible to assure consumers a steady and adequate gas service.

The first use of natural gas in the United States was in 1826, at Fredonia, in Chautauqua County, New York. In that year General Lafayette made a tour of the country. To celebrate his stop at Fredonia a well was drilled into a gas pocket and a lead pipe was used to carry the gas to the local tavern. The brilliant light produced by the new fuel was remarked upon by General Lafayette and recorded in his journal.

Interest the Public in Gas

A. G. A. Speaker's Bureau actively engaged in this important work

A. M. Apmann

"NEARLY 90 per cent of the violet perfume saw no plant other than the gas plant." The uproar that greeted this part of the talk was only exceeded by the look of astonishment when the next statement brought out the fact that the manufacture of compounds for fertilizer is a very essential part in the manufacture of a well known make of vehicle which clutters up the highways on Sunday afternoons. Gas is used in the heat treatment of the Ford cars and the amount of ammonium sulphate which is gathered from the coke ovens is sufficient to produce a great amount of ammonium sulphate which is used in fertilizer.

Still more astonishment was found on the faces of the members of the audience when it was stated that of the 1,100,000,000 loaves of bread used in New York City every year, between sixty and seventy per cent of them were baked by gas.

After the meeting, members of the audience which might have been at a Rotary Club, Kiwanis Club, Chamber of Commerce, or other business organization, were very much interested in the talk which was given by a speaker supplied through the Speaker's Bureau of the Industrial Section of the American Gas Association. This bureau has been functioning well in many of the larger cities for the past few years by supplying talks on industrial gas development for the benefit of business men, organizations and technical colleges. This year it is hoped that its effectiveness is vastly increased. Its chairman, Mr. H. Howard Smith, of Boston, and its vice-chairman, Mr. C. E. Muehlberg, of Denver, Colo., are both live wires and deserve great support.

Speakers Are Provided By Bureaus

The function of this bureau is to provide speakers when they are requested, to find opportunities for the speakers before business men organizations, and to see that the proper material is given to the

speakers as a basis around which to mould their own talk. The speaker's bureau needs help in their work. They must count on the members of the association who are also members of business men's organizations to provide a place on their programme for speakers. With these invitations, it must then supply speakers. However, the demand for speakers is far greater than the present supply and it is hoped that many more of the members of the industrial section will be able to give a few hours to put across this industrial gas story.

Set Speeches Available

The association has a number of set speeches which give the important facts about the gas situation, but it needs more men, preferably from companies in the smaller towns to carry the message to their own communities. Mr. Smith, either at his Boston address, Boston Consolidated Gas Co., 149 Tremont Street, Boston, or at association headquarters, or the vice-chairman, Mr. Muehlberg, Public Service Co. of Colorado, Denver, Colo., will be very pleased to receive the assurance that a great many more of the association membership will be available during the coming year for this work. They will also be more than pleased to receive invitations for all kinds of speakers from any of the members who have an opportunity to find such openings.

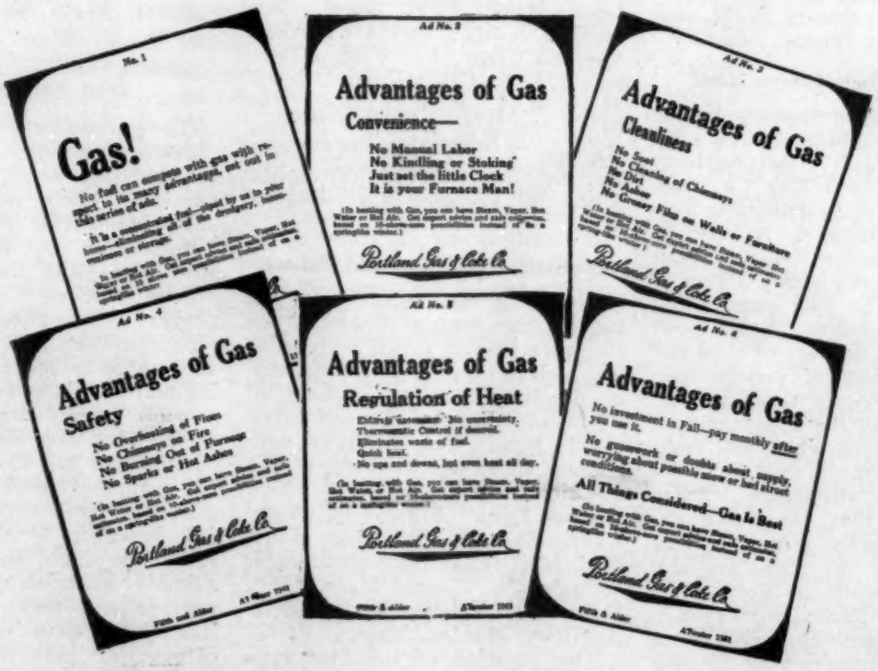
There is a great deal of work to be done in educating the gas consuming public to the advantages of gas. Speaking before a large group gets across the message, not to a single prospect, but perhaps to 15 or 20 prospects. With the assistance of the large membership enrolled in the industrial section there is doubt that the effectiveness of this section can be materially increased. More speakers, each doing a little share, will soon create in the minds of the leaders of industry that gas is the ideal fuel.

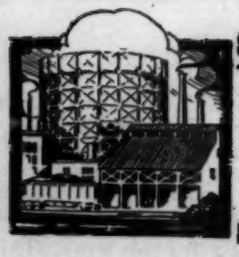
Tying Dealers to Producer

Sample of how this is being done in Portland

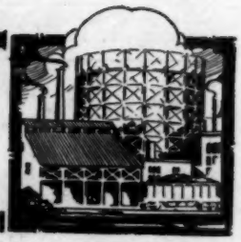
The papers from the Pacific Coast, that is to say from Portland, Oregon, bring us a series of advertisements setting forth in daily doses the advantages of gas, starting with the general recommendation and following up with the five ads on cleanliness, convenience, safety, regulation of heat and saving in investment.

Interesting as these ads are, the crowning achievement was to clinch the endorsement by more than a score of heating experts in a quarter page ad appearing in all the papers that have reached our desk, as follows:





NEWS OF THE GAS INDUSTRY



Gas Men Discuss House Heating

December Meeting, Operating Division, N. E. Gas Assn. Held in Manchester

A very successful meeting, attended by 110 members and guests, was held by the Operating Division of the New England Gas Association on December 17 to 18 at the Hotel Carpenter, Manchester, N. H. A feature that added to the value of this meeting was providing each person present with mimeographed copies of all the papers. The Manchester Gas Co. supplied these copies. G. W. Stiles, president of the division, presided.

At the Saturday morning session six new active members were voted in and 12 association members. President Stiles appointed the following nominating committee: Harry C. Crafts, Pittsfield, Mass.; Gordon Howie, Cambridge, Mass. and H. E. White, Bridgeport, Conn. He also appointed the following by-laws committee: I. T. Haddock, Cambridge, Mass.; W. M. Africa, Manchester, N. H., and H. N. Cheney, Boston, Mass.

Paper on Distribution Read

The meeting opened on Friday night with a dinner at six P. M., after which W. T. Jebb, engineer of the Manchester Gas Co., read a paper on the Distribution System of his company. A very interesting discussion followed, dealing with virtually every aspect of the paper. The two outstanding points that caused discussion, however, were the delivery of coke and the night duties of service men who are held ready to answer all complaints, and the importance of sending two men when leak complaints come in.

During the discussion it was brought out that by giving the service men who remain at the service station at night on call some other work to keep them busy, such as clerical work, washing cars or something else, even the small companies may be able to give their customers all night complaint service.

In coke deliveries it was found during the course of the discussion that many companies experience difficulty in maintaining as high a delivery efficiency as desired. It was the consensus of opinion that it should be possible to make a greater daily tonnage of daily deliveries per truck than is now the case, but no one seemed to be able to offer a satisfactory solution of the problem.

Among those who discussed this paper were: John P. Crabb, Worcester, Mass.; H. E. White, of Bridgeport, Conn.; N. G. Caputi, Lowell, Mass.; W. B. Gibby, Malden, Mass.; A. H. Scott, New Britain, Conn.; I. T. Haddock, Cambridge, Mass.; G. Warren Stiles, Portland, Me.; Albert I. Flanders, Lowell, Mass.; George H. Priest Brockton, Mass.; Francis E. Drake, Lynn, Mass.; F. H. Baker, New London, Conn.; David P. Allen, Meriden, Conn.; E. I. Patton, Pawtucket, R. I.; G. C. Holland, Providence, R. I.; H. C. Crafts, Pittsfield, Mass.; W. E. Norton, Nashua, N. H.; Frank A. Wood, Beverly, Mass., and H. Vittinghof, Stone & Webster Co., Boston Mass.

Discussion on Plugs and Valves

Following the discussion of the paper there was a discussion on the question of which is best to use, valves or plugs. In this discussion many points in favor of plugs, especially of the self lubricated type, was brought out Among those who discussed this question were: A. H. Scott, New Britain, Conn.; Francis E. Drake Lynn, Mass.; G. W. Stiles, Portland, Me.; H. Vittinghof, Stone & Webster Co., Boston, Mass.; G. C. Holland, Providence, R.. I., and W B. Gibby, Malden, Mass.

The question of the best type of joint best suited for low pressures and for high pressures precipitated a discussion on concrete joints. It was brought out in this discussion that to make satisfactory concrete joints care was essential. The pipe needs to be properly bedded so it will not move while the cement is setting, the pipe must be properly cleaned and if rough smoothed and it is very necessary to guard against excess water. Where too much water is used, the cement is washed away and a poor and leaky joint results.

Tests made by some of the members showed concrete joints when properly made to be remarkably strong and uniform. The yarn and concrete type of joint was the one those discussing the paper seemed to prefer.

Among those who discussed this question were: E. F. Kennedy, Malden, Mass.; Howard E. White, Bridgeport, Conn.; H. Vittinghof, Stone & Webster Co., Boston, Mass.; G. W. Stiles, Portland, Me.; David P. Allene, Meriden, Conn.; Francis E. Drake, Lynn, Mass.; Geo. H. Priest, Brockton, Mass. and W. B. Gibby, Malden, Mass.

Iron Versus Steel

The question of iron versus steel pipes, especially for services, brought out some difference of opinion. There were some who still believe that it is worth the difference in cost to use wrought iron pipe. On the other hand, others believed that with the proper covering to protect steel pipe from corrosion it would prove as durable as desired. The covering material, however, must be absolutely impervious, and some of those who took part in the discussion had had the experience of using pipe covered with material that was far too porous. It was felt, however, by these men that steel pipe could be covered with suitable material and in such a manner as to make it entirely satisfactory in virtually all conditions of ground.

Among those who discussed this question were: George H. Priest Brockton, Mass.; G. C. Holland and W. B. Smith, Providence, R. I.; Albert I. Flanders, Lowell Mass., and H. Vittinghof, Stone & Webster Co., Boston, Mass.

The Governor

The question of the best type of governor to handle pressures of ten pounds and up led in the direction of pointing out the type of governor that would be needed in the future. It seemed to be the opinion of those present that there was not now on the market a perfect governor, a condition apparently brought about by the comparatively recent use of higher pressures in distribution. What was needed, it was pretty well agreed, was a governor that would maintain the house pressure uniform though the main pressure varied through a wide range. For example, a governor that would maintain constant house pressure though the main pressure was boosted many fold during the peak load and dropped to practically the house pressure during the off-peak load would greatly simplify distribution and service problems.

Among those who discussed this paper were: H. Vittinghof, Stone & Webster Co., Boston, Mass.; I. T. Haddock, Cambridge, Mass., and A. H. Scott, New Britain, Conn.

Conversion Jobs in House Heating

The first paper presented at the Saturday morning session was that of A. J. Smith, Manager, Concord Gas Co., Concord, N. H. A very full discussion followed along the lines of conversion jobs which those present found did not prove practical, servicing house heating installations and condensation troubles. Everyone who spoke from experience on conversion jobs stated that they had found that converting a coal boiler to gas usually resulted in a much higher gas bill than would have been the case if a gas boiler had been used. By using an economizer with a warm air furnace fairly satisfactory results had been secured. It was stated that unsatisfactory results could be expected if the flue from a gas fired heating plant was connected to an outside chimney. Some of those present stated that gas heating installations were not resulting in as many service calls as they had expected.

Among those who discussed this paper were: R. G. Mosscrop, Manchester; Wm. Hayes, a plumbing supply man of Manchester, N. H.; C. H. O'Donnell, Lowell, Mass.; Geo. H. Priest, Brockton, Mass.; David P. Allen, Meriden, Conn.; A. G. Spinnev, Portland, Me.; H. S. Brasseur, Haverhill, Mass.; W. B. Smith, Providence, R. I.; C. J. Lueders, Lynn, Mass.; E. C. Martin, Gardner, Mass., and W. B. Gibby, Malden, Mass.

The U. G. I. Verticals

The house heating paper was followed by one by C. P. Warner, Superintendent of Gas Production, Manchester Gas Co.,, on the U. G. I. Vertical retorts used by that company.

This paper also called forth a general discussion, questions being asked in regard to the method used in scurfing. The discussion, however, soon drifted to the ammonia problem, the question being whether or not the market for sulphate would be better than that for the liquor. It was the general opinion of those present that eventually gas companies would have to sell their ammonia in the form of sulphate because of the increased volume of synthetic ammonia that would be manufactured. It was also pointed out that as more and more gas companies turned to sulphate the price of that was likely to drop. At the present time most of those present believed it best not to make sulphate but to be prepared to do so when the time came that it proved to the best advantage to market the ammonia in that form. It was pointed out that much of the present apparatus could be converted to use in the sulphate process.

Among those who took part in this discussion were: E. F. Kennedy, Malden, Mass.; G. G. Howie, Cambridge, Mass.; C. J. Lueders, Lynn, Mass.; H. Vittinghof, Stone & Webster Co., Boston, Mass.; C. W. Stiles, Portland, Me.; John B. Crabb, Worcester, Mass.; N. G. Caputi, Lowell, Mass.; W. M. Africa, Manchester, N. H.; I. T. Haddock, Cambridge, Mass.; C. A. Schlegel, U. G. I. Con. Co., Philadelphia, Pa.; W. T. Jebb, Manchester, N. H.

The question of the best type of meter hanger for general use which was given out for discussion at this morning session resulted in very little discussion, and developed the fact that some companies used them and some did not. Among those discussing this question were: George H. Priest, of Brockton, Mass.; W. M. Africa, Manchester, N. H., and A. H. Scott, New Britain, Conn.

The Demand Meter

The question in regard to the best type of demand meter to use resulted in a discussion pointing toward the desirability of a chart type giving a detailed record of the demand. An interesting feature of this discussion was that so many companies are trying out at least a demand rate. Some fix the demand without using a meter. Some use a meter. In some cases it has been found that customers actually ask for the demand rate. It does not have to be sold to them. It was also brought out that it was absolutely necessary to use a demand rate if the long hour and most profitable business was to be secured.

Among those who discussed this question were: H. E. White, Bridgeport, Conn.; F. A. Baker, New London, Conn. ; John J. Dowling, New London, Conn.; I. T. Haddock, Cambridge, Mass.; George Carlson, Fitchburg, Mass.; A. J. Smith, Concord, N. H.; H. Vittinghof, Stone & Webster Co., Boston, Mass.; A. H. Scott, New Britain, Conn., and Harry C. Crafts, Pittsfield, Mass.

Soft Coal in Water Gas Generators

The question in regard to the proportion of soft coal and coke that can be used in a water gas set without lowering the capacity of the set brought out the point that the smaller the set the larger the percentage of soft coal that can be used and still maintain the rated output. Among those who discussed this question were: John J. Dowling, New London; C. P. Johnson, Haverhill; C. A. Schlegel, U. G. I. Construction Co., Philadelphia, Pa.; H. Vittinghof, Stone & Webster Co., Boston, Mass; E. C. Martin, Gardner, Mass.; John B. Crabb, Worcester.

The question of turning from soft coal to coke was very closely allied to the other question, as was

also the effect of the British coal strike. Messrs. Johnson, Schlegel, Martin and A. J. Smith were among those who discussed these questions.

The Back Run Cycle

What is the cycle commonly used with back run installations and how is the run split was the last question discussed at the meeting. In the discussion it was recommended that the up and the down runs be as nearly equal as possible and 97 seconds was given as one period that had worked satisfactorily. Among those who discussed this question were: C. J. Lueders, Lynn, Mass.; A. E. Flathers, New Bedford, Mass.; John S. Ferguson, Pawtucket, R. I.; John B. Crabb, Worcester, Mass.

At the close of this session President Stiles announced that the Manchester Gas Co. would have a bus at the hotel at 2.00 P. M. to take those who wished to the gas plant. The afternoon was spent in an inspection of this plant.

The success of this meeting is evidence that the policy being pursued by the Operating division of holding several meetings during the winter season is the right one. Also the practice of holding them in a different city each time, with the local gas company arranging all the local details is proving very satisfactory. One feature that was gratifying was the very general discussion that took place. There was absolutely no lagging at any of the sessions. Every minute was utilized. It is planned to have at least one more such meeting as this, in addition to the regular February meeting, before the advent of warm weather. It is felt that the exchange of information that results from these meetings and the stimulus to progress that results are well worth the time and the effort spent.

Dr. Walton Clark Gets U. G. I. Medal

Distinguished Engineer Rewarded for Life Work in Gas Research At Franklin Inst.—First to Receive Award

Philadelphia, Pa.—Dr. Walton Clark, consulting engineer of the United Gas Improvement Company, has been honored for his life work in the gas industry by friends and business associates of half a century and members of the Franklin Institute.

Dr. Clark was the first to receive the Walton Clark Medal, endowed by the U. G. I.,, at an impressive ceremony in the Franklin Institute. Dr. Clark was president of the Franklin Institute for seventeen yars, was formerly vice-president of the U. G. I., and is well known for his development of improved gas methods.

W. C. L. Eglin, president of Franklin Institute, made the presentation. Dr. Clark, rising to accept the medal, turned to the men in the audience, friends of a lifetime, and said:

"I appreciate very highly this honor. I thank you all for coming here on such a busy day to see me receive this medal."

As the medai was handed to Dr. Clark the visitors applauded. Among those present were: Samuel T. Bodine, president of the Board of Directors, and Arthur W. Thompson, president of the U. G I.; Philip H. Gadsden, president of the Philadelphia Chamber of Commerce; Morris W. Stroud, J. A. Pearson, James Barnes, of Bryn Mawr College; Josiah H. Penniman, of the University of Pennsylvania; W. Alleman, of Swarthmore College; Charles Penrose, Dr. Howard McClenahan, Walton Forstall, Charles A. Hall and many others.

The report of the Institute's Committee on Science and Arts, which recommended that Dr. Clark be honored, was read.

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C. W. Green to Resign from Gas Co.

Kansas City, Mo.—The resignation of C. W. Green, vice-president and general manager of the Kansas City Gas Company, Kansas City, Mo., and the Wyandotte County Gas Company, to take effect January 1, 1927, has been announced. Mr. Green, who for seven years has been associated with the gas company, will retire from active business. He will remain a director of both companies, however.

Mr. Green has been active in local and state political circles many years. He served on the board of administration during the governorship of Senator Arthur Capper.

Under former Gov. Henry J. Allen, Mr. Green was appointed to the public utility commission to serve a term of three years. He served only one year of that term, however, the creation of the court of industrial relations causing the abolishment of the commission.

Thomas J. Strickler, who since 1920 has been general manager of all the gas distributing companies of the H. L. Doherty organization, in the mid-continent field, will succeed Mr. Green as vice-president of the two companies. The mid-continent field embraces several systems in Kansas, Missouri and Oklahoma. Mr. Strickler will continue in the position of general manager of the mid-continent system.

Mr. Strickler has been active in Kansas politics. He served for seven years as chief engineer for the Kansas public utility commission. He is a graduate of the school of engineering at the University of Kansas.